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In reply refer to:

September 10, 1996

William F. Caton
Acting Secretary
FCC
Washington, DC 20554

Re: Ex parte Letter for CC Docket No. 95-155, Toll Free Service Access Codes

Dear Mr. Caton:

I attended a widely attended and public industry meeting called the Carrier Liaison Committee (CLC) on September 5, 1996. During this meeting the two documents attached were distributed. The first document, from the ICCF, is a proposal for toll free number exhaust planning. The second, from the National LEC 800 Product Team is this team's planning document for implementation of future toll free service access codes in their networks. These issues are addressed in this proceeding. These organizations are also parities in this proceeding.

Please submit these documents into the record of CC Docket No. 95-155. Thank you.

Regards,

Mary De Luca

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ICCF

INDUSTRY CARRIERS COMPATIBILITY FORUM

UNDER THE AUSPICES OF THE CARRIER LIAISON COMMITTEE

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Date: August 13, 1996

To: Don Werner, OBF Moderator, AT&T
   131 Morristown Rd.
   Room A2544
   Basking Ridge, NJ 07920

   Glen Sirles,OBF Assistant Moderator,
   Southwestern Bell
   One Bell Center
   Room 10D07
   St. Louis, MO 63101

Subject: Toll Free Resource Exhaust Planning Process

Dear Don and Glen,

Consistent with our letter of November 20, 1995, INC has developed the "Toll Free Resource Exhaust Planning Guidelines", which is attached. This document includes recommended intervals for various activities that should occur, e.g. industry notification of exhaust, new resource availability and frequency of forecasts. Please note that the twenty-seven month network preparation interval used in this document was developed using the most current information available at this time and is subject to change. This interval should be adjusted as vendors and network providers develop additional network capabilities for activating subsequent Toll Free NPAs.

INC Issue #055 was accepted for Final Closure at INC26 on August 2, 1996.

Sincerely,

Denny Byrne   Bob Hirsch
INC Co-Chair   INC Co-Chair

Copy to:
ICCF Participants
INC Participants
Jim Byrd - OBF Administrator

Attachment

ICCF

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Toll Free Resource Exhaust Relief Planning Guidelines

These guidelines are issued in connection with the resolution of INC Issue #055.

INDUSTRY NUMBERING COMMITTEE

TOLL FREE RESOURCE EXHAUST PLANNING GUIDELINES

1.   Introduction

This document is to be used for forecasting the months to exhaust of the current toll-free Naps. The months to exhaust will, in turn, trigger an announcement to the industry of the relief NAP and the date it will be available. All references to number(s) or NAP(s) in this document are toll-free number(s) or NAP(s).

According to Section 2.4, Service Management System For 800 Numbers, of the OF/SAC Guidelines toll free numbers fit into one of nine categories:

NNX Not Open	Spare	Reserved
Assigned	Working	Disconnect
Transitional	Suspend	Unavailable

Spare numbers are defined as follows - The 800 Number is available for assignment by a REPS OR.

The other eight status's for numbers are for those numbers that are unavailable for assignment. This forecast will estimate the months to exhaust of the Spare numbers. .

There are two factors used in estimating the months to exhaust. The first is the actual monthly average demand which is provided by DIMS. The second is an estimated monthly accelerated demand which is determined by the OF SAC with input from DIMS.

The forecast model uses the actual average demand and the estimated accelerated demand to estimate the months to exhaust of the spare numbers.

DIMS will run the forecast model periodically. When the months to exhaust equals 40, DIMS will run the model monthly. When the months to exhaust equals 30 the industry will announce that the new NAP will be available in 27 months.

Section 2 of these guidelines gives an example of the forecast model using fictitious numbers. Section 3 provides definitions for the items in the forecast model. The items in the model have one of three sources; they are provided by DIMS, provided by the industry. or are derived from two other values in the model.

2. Forecast Model Example

	ITEM	Value Provided by DSMI Report	Value Provided in this Document	Formula	Derived Value
1.	Spare	8.000,000			
2	Average Demand	100,000			
3.	Accelerated Demand		200,000		
4.	Months of Accelerated Demand		10		
5.	Total Quantity of Accelerated Demand			3X4	2,000,000
6.	Average Demand Pool			1-5	6,000,000
7.	Months of Average Demand			6/2	60
8.	Months to Exhaust			4+7	70

Step 1   The quantity of spare numbers provided by DSMI is 8,000,000.

Step 2   Average demand as provided by DSMI is 100,000 numbers a month.

Step 3   The OBF SNAC with input from DSMI has determined that 200,000 should be used as an estimated monthly accelerated demand.

Step 4   The OBF SNAC with input from DSMI has also determined that 10 months should be used as the estimated number of months there will be accelerated demand during the remaining months to exhaust.

Step 5   The total quantity of numbers used during the estimated 10 months of accelerated demand is 2,000,000. (10 months X 200,000)

Step 6   The spare numbers minus the total accelerated demand equals the total quantity of numbers used during the months of average demand.
(8,000,000 - 2,000,000 = 6,000,000)

Step 7   The average demand pool divided by the average demand will give the number of months of average demand. (6,000,000 / 100,000 = 60)

Step 8   The number of months of average demand plus the estimated number of months of accelerated demand equals the total months to exhaust. (60 +10 = 70)

Since there is an estimated 70 months to exhaust, the projected announcement date of the new NAP is 40 months away. The new NAP would be available for assignment to REPS ORS 27 months after the announcement date.

3.   Explanation of Forecast Model

1. **Spare** - This is a value tracked monthly by DIMS.

    Spare = value provided monthly by DIMS

2 . **Average Demand** - The Average Demand is the actual average demand provided monthly by DIMS.

    Average Demand = value provided monthly by DIMS monthly

3 . **Accelerated Demand** - Accelerated Demand is an estimate provided by the OF SAC with input from DIMS of demand for numbers during a month when there is higher than average demand. This number is used to add a factor above average demand such as would be expected as the current resource is exhausting. One method of deriving the accelerated demand is to use historical data. Examples of this are the average of the previous 10 high months or average of the 5 previous high months.

    Accelerated Demand = provided by OBF SNAC with input from DSMI

4 . **Months of Accelerated Demand** - This is an estimate provided by the OBF SNAC with input from DSMI of the number of months there may be accelerated demand as per item 3.

    Months of Accelerated Demand = provided by OBF SNAC with input from DSMI

5 . **Total Quantity of Accelerated Demand** - This value is derived by multiplying the quantity of accelerated demand by the months of accelerated demand. This will give the total quantity of numbers utilized during the estimated periods of accelerated demand.

    Total Quantity of Accelerated Demand = months of accelerated demand X accelerated demand =

6 . **Average Demand Pool** - The average demand pool is the quantity of numbers used during the periods of average demand. This is derived by subtracting the total quantity of accelerated demand from the spare numbers.

    Average Demand Pool = Spare Numbers - Total Quantity of Accelerated Demand

7 . **Months of Average Demand** - The months of average demand is derived by dividing the average demand pool by the average demand.

    Months of Average Demand = Average Demand Pool / Average Demand

8 . **Months to Exhaust** - The months to exhaust is derived by adding the months of average demand to the months of accelerated demand.

Months to Exhaust = Months of Average Demand + months of accelerated demand

Announcement Date - The announcement date is the date that the industry announces the relief NAP and its availability date. The announcement is triggered when the Months to Exhaust = 30.

Announcement Date = The date that Months to Exhaust = 30

Availability Date - The availability date is the date that the relief NAP will be able to be disable by end users. The availability date is 27 months after the announcement date. The twenty seven month network preparation interval used in this document was developed using the most current information available at the time and is subject to change. This interval should be adjusted as vendors and service providers develop additional network capabilities for activating subsequent toll free Naps.

Availability Date = Announcement Date + 27 Months

The National LEC "8XX" Planning Document

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National LEC 800 Product Team

The National LEC "8XX" Planning Document

Contents

1. INTRODUCTION

1.1 PURPOSE

This report documents the results of a review conducted by the large local exchange carriers (LECs) to determine the requirements for opening the remaining toll free NPAs (877, 866, 855, 844, 833, 822). The LEC committee that developed this report, the National LEC 800 Product Team, is comprised of representatives from: Ameritech, BellSouth, NYNEX, Pacific Bell, U S WEST, Southwestern Bell Telephone Company, GTE Telephone Operations, Cincinnati Bell, Southern New England Telephone Company, Stentor Resource Centre, Inc., and the United States Telephone Association.

This document serves as a guide for implementing the remaining toll free NPAs (877, 866, 855, 844, 833, 822). It also explains the steps and associated timeframe anticipated for implementation of the 877 code, while demonstrating the differences that exist between the 877 project and any future code openings. This document should be referenced by any industry participants, either as individuals or in forums, whenever discussing plans for opening future 8XX toll free codes. It will also be used as a foundation for the Product Team once implementation of the next toll free codes becomes necessary.

1.2 BACKGROUND

In late 1994, the telecommunications industry and the FCC realized that the toll free 800 resource was approaching exhaust. An industry decision[1] was made to remedy the exhaust situation by opening a new toll free NPA. The 888 code was chosen as the first new code, with 877, 866, 855, 844, 833, and 822 reserved for future exhaust relief. The 888 toll free code was opened in the United States and Canada on March 1, 1996. The project required significant changes to various elements of the LEC network, including modifications to switch software, network database hardware and software, and the national Service Management System (SMS/800) environment. This process took over a year and tens of millions of dollars to implement nationwide. Almost immediately after the 888 code was implemented, the industry's attention turned to what steps should be taken to prepare for 888 exhaust. Current consumption rates for 888 number use indicate that the 888 code will likely approach exhaust in mid-1998.

The National LEC 800 Product Team conducted a detailed investigation into the requirements for opening the remaining 8XX codes. Discussions with switch vendors and database developers were included. The results were evaluated and this report was developed.

---

1. INC Meeting, January 25, 1995.

2. EXECUTIVE OVERVIEW

When implementing the new toll free NPA code, 888, LECs were required to make significant modifications to several elements of their networks. These elements included local switches (end offices and tandems), network databases (Service Control Points - SCPs), and the national 800 Service Management System (SMS/800) database. Provisions were made wherever possible to handle the additional toll free codes (888, 877, 866, 855, 844, 833, and 822). This document explains the status of current work efforts in the local exchange networks of the National LEC 800 Product Team companies.

LEC networks are currently processing 888 traffic. However, additional work exists for the remaining codes (877, 866, 855, 844, 833, and 822). Looking specifically at 877, the necessary changes to LEC networks and to the national database could be implemented during the third quarter of 1997 if required. Based on the existing consumption rate of 888 numbers, this schedule is timely and should provide an adequate supply of toll free numbers. The remaining codes (866, 855, 844, 833, and 822), however, have less definite time frames established and will be significantly more complex to implement. Hardware and software changes will be required to expand existing network elements to include the additional 8 million numbers that are enabled with each new code. However, since 866 should not be necessary until 877 is approaching exhaust (estimated to be some time after the year 2000), there is time to evaluate technical alternatives as they become available over the next few years.

The National LEC 800 Product Team companies are committed to monitoring the status of toll free codes and to initiate the work activities needed to meet the industry's needs. The first step could be the availability of 877 in the latter part of 1997 if needed, while giving close attention to the subsequent need for 866 and the vendor capabilities at that time. Final implementation plans will be developed once the need for a new code has been identified.

3. NETWORK COMPONENTS

3.1 SWITCHES 877, 866 AND BEYOND

A survey of switch manufacturers indicates that the software developed for the introduction of 888 also supports 877. The availability of software to support codes beyond 877 (i.e., 866, 855, 844, 833, and 822) varies by supplier and switch type. For example, one major supplier has developed a capability for all 8XX codes, while another has developed only 888 and 877. Additionally, certain suppliers have developed the capability for all 8XX codes on some of their switch types but not on others. Furthermore, some suppliers have announced a strategy of requiring carriers to process their 866 – 822 traffic on an AIN platform.

Activating 877 toll free access in LEC networks is expected to be relatively straightforward. Work will be required to test the 877 capability and the 877-related translations in switches and other network elements. Based on recent experience with 888, it is feasible to put 877 in service within 6 months of the identification of the impending need.

On the other hand, the introduction of 866 presents far more uncertainty than the progression from 888 to 877. Early information obtained from the switch suppliers indicates that not all switches currently in service will be upgraded to support the 866 code. Some switch suppliers have announced that support of 866 (etc.) will require changes in IN/AIN platforms. The preliminary information received indicates that suppliers will be releasing 866 software over a 15 month window beginning in 3Q96. The uncertainty concerning 866 support on existing switching systems and the protracted interval for release of 866 software does not provide the same assurances that we have for initiating 877 within a specific time interval.

3.2   STP 877, 866 AND BEYOND

A survey of STP manufacturers indicates that the software developed for the introduction of 888 supports all 8XX codes.

3.3   SCP 877, 866 AND BEYOND

Bellcore's Service Control Point (SCP)/800 was developed using a generic approach that would support all identified toll free codes of the 8XX format. To meet the February 1996 deployment deadline for 888, however, the only testing that was fully executed was for the 888 code. This is important for two reasons. First, even though all codes should perform consistently, it will still be necessary to insure that 877 (etc.) operate in the precise manner of 888 and 800. Second, and most important, it will be necessary to insure that the SCPs can handle the increased load of another code.

When 888 was implemented, it was necessary to double the record storage capacity of the SCPs (the SCPs were originally engineered to handle the 8 Million records associated with 800). Adding each new code adds 8 million new numbers; therefore, adding 888 required re-engineering of the SCPs.

Many of the SCPs in the LEC networks are approaching maximum record storage capacity. Therefore, in addition to requiring re-engineering, adding the 877 code will require new software techniques to maximize performance. This can be accomplished as a part of the regular SCP release cycle in third quarter 1997.

Adding the 866 code will require significant changes to the current SCP configuration. Each SCP owner will have to analyze their needs and plan for the necessary upgrades. Since the 866 code should not be necessary until sometime after the year 2000 and technology is

likely to change by then, SCP owners will likely postpone designing and implementing changes for 866 and subsequent codes.

3.4   SMS/800 877, 866 AND BEYOND

Modifications to the SMS/800 software for handling the 877 code are scheduled to be installed on the SMS/800 system in March 1997. The hardware configuration for the SMS/800 system will be capable of handling the capacity required for 877.

Opening the 866 and subsequent codes will require evaluation of capacity and processing loads. Current technology requires significant memory and storage upgrades to handle such a load increase. Based on the assumption that the 888 code will not exhaust until mid to late 1998, and further assuming that 877 will meet industry demands until well into the year 2000 or 2001, no plans are being made at this time to upgrade the SMS/800 system to handle the additional load resulting from the 866 and subsequent codes. Technological changes between now and when the need for implementing 866 (etc.) arises, would certainly obsolete any upgrade plans developed at this time. The consumption rate for 888 and 877 will be watched very closely and planning for 866 will begin as soon as necessary.

4.   REGULATORY AND INDUSTRY ISSUES

4.1   REGULATORY ISSUES

The only readily identifiable regulatory impact to this plan is the anticipated order in CC Docket No. 95-155, In The Matter of Toll Free Access Codes.

In CC Docket No. 95-155, the FCC issued a Notice of Proposed Rule Making (NPRM) on October 5, 1995. The NPRM indicates that the FCC expects that the industry will improve its ability to timely identify code exhaust in order to allow sufficient time for implementation of a new code prior to exhaust. The NPRM touches on several options that could be employed to accomplish this goal.

The NPRM proposes several solutions for the introduction of a new code. It should be noted that a different set of activities and time frames are required for going from 888 to 877 than are required for the addition of 866 and subsequent codes. Most incumbent LEC systems currently can accommodate 877 with less activity than will be required for codes beyond 877. Codes beyond 877 may require new technology, hardware or software that is not currently available, under development, or in place.

At this time there is no indication as to when an order will be issued on the NPRM. The various proposals outlined in the NPRM may or may not be mandated in the order. It is therefore not possible to finalize a network plan until an order is received.

4.2   INDUSTRY ISSUES

There are many industry related issues involved in 8XX implementation planning. The first deals with developing the criteria to determine what should trigger the opening of the next 8XX code for toll free service. The same criteria would need to be established for opening 866 and the subsequent codes. This is the subject of discussion in two industry forum groups: the SMS/800 Number Administration Committee (SNAC); and the Industry Numbering Committee (INC). It will be very important for these committees to be familiar with this 8XX Planning Document when finalizing their plans.

Another industry issue associated with toll free code openings involves test plans. The Network Operations Forum (NOF) generally develops model test plans for local and interexchange carriers. Even though the industry has experience in opening the 888 code, the NOF should evaluate this planning document before developing an 8XX Network Testing Plan. Their test plan should consider the timeframes included in this planning document for implementation, testing, and the network conversion. Lessons learned from the 888 project should also play a major role in the development of an industry test/ conversion plan.

5.   CONCLUSION

The National LEC 800 Product Team is planning to be able to handle 877 traffic by the third quarter of 1997 if required. This schedule should more than meet industry demand. The remaining codes, 866 (etc.), however, require a different schedule. Unknowns associated with vendor plans and expected exhaust dates have made it more difficult to specifically define when LEC networks will be able to handle these codes. Product Team companies will work closely with industry forums to monitor the need for expanded toll free codes. Once a need has been identified, formal implementation plans will be developed.